DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON, DC 20310-0600

DAIM-ZA

20 APR 2005

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Data Standards for Geographic Information Systems (GIS) and Computer Aided Drafting and Design (CADD) and Related Technologies

1. Provided below is the interim guidance for the requisite data standards necessary to establish an enterprise GIS system within the Army. We anticipate final guidance, AR 5-XX Installation Geospatial Information and Services, to be published and distributed to the field in calendar year 06.

2. The standards for creation, collection, maintenance, storage, and distribution of installation geospatial data are provided. Execution of these standards at all Army levels supports compliance with Executive Order 12906 and other national and DoD guidance. This guidance will reduce duplication of installation GIS data creation, collection and applications, and enable the delivery of standardized products. Accordingly, it is the vehicle to promote the life-cycle management of geospatial data and serves as a technical guideline for GIS and CADD at all Army installations.

3. The OACSIM point of contact is Mr. Joshua Delmonico, DAIM-ZS, (703) 602-2851 or email: Joshua.Delmonico@hqda.army.mil.

Encl

GEOFFREY D. MILLER
Major General, GS
Assistant Chief of Staff
for Installation Management

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GEOGRAPHIC INFORMATION SYSTEMS (GIS)
AND COMPUTER ADDED DRAFTING AND DESIGN (CADD)
DATA STANDARDS 13 May 2005

1. **Purpose**. This document provides policy guidance on standards affecting the collection and creation of installation spatial (GIS and CADD) data within the Department of Army (Active, Reserve and National Guard).

2. **Scope**. This policy statement applies to all HQDA-funded (in-house or contracted) installation spatial data creation, collection, acquisition, modification and editing.

3. **Background**. Standardization of spatial (GIS and CADD) data documentation, formats, accuracy, and definition increases the Army's ability to compile data across functional areas, promotes data sharing, and reduces duplication of effort. Using current Federal and DoD standards will assist in these efforts.

4. **Data Documentation**. All existing and newly created spatial (GIS and CADD) data being utilized to support installation management will be documented in accordance with the Federal Geographic Data Committee (FGDC) Content Standards for Digital Geospatial Metadata. Both '*Mandatory*' and '*Mandatory as Applicable*' fields, as defined by the FGDC Standards, shall be completed for each GIS data layer. Metadata files will be stored in Extensible Markup Language (XML), Hypertext Markup Language, American Standard Code for Information Interchange (ASCII). GIS data shall be documented, no later than 31 December 2004. Numerous compliant metadata software programs are readily available on the Internet, http://www.fgdc.usgs.gov, to assist in this effort.

5. **Data Sharing**. The National Spatial Data Infrastructure (NSDI) and Executive Order 12906 (April 13, 1994) state that all spatial (GIS and CADD) data will be shared to avoid wasteful duplication and promote effective and economical management of resources. All federal agencies are required to participate in the NSDI as per EO12906. Army GIS personnel shall share data across functional and organizational lines, with other federal, state and local governments, and non-governmental organizations (NGOs) in accordance with applicable state and federal laws. Army installations shall ensure all spatial (GIS and CADD) data is network accessible and available for use by all installation functions.

6. **Data Standards**. The current release of the Spatial Data Standard for Facilities, Infrastructure and Environment (SDSFIE) shall be followed for geospatial database table structure, nomenclature, and attributes to allow for data integration. The SDSFIE and related documentation can be downloaded from the CADD and GIS Technology Center homepage at http://tsc.wes.army.mil. The Facility Management Standard and the Architecture, Engineering and Construction (AEC)/CADD standards shall be followed for CADD data. All proposed Army changes to the SDSFIE, FMS and AEC/CADD standards shall be submitted through the Installation Management Agency or the Army National Guard for coordination with OACSIM.

7. **Projections and Datums.** All spatial (GIS and CADD) data shall use the World Geodetic System of 1984 (WGS84) datum, and the North American Vertical Datum of 1988 (NAVD88) to ensure data alignment and accuracy. CADD data shall be georeferenced. Data shall be displayed using an appropriate projection for installation

use. The projection, datum and coordinate system must be defined and then documented in the metadata for both CADD and GIS and provided whenever the data is distributed. A resource for explanation of projections and datums can be found in the following Corps of Engineers manual on geospatial mapping (EM 1110-1-2909), http://www.usace.army.mil/inet/usace-docs/eng-manuals/em1110-1-2909/c-11.pdf. This manual addresses issues related to geospatial mapping including datums, scales, and the resulting accuracy.

8. **Data quality.** All spatial (GIS and CADD) data shall be created and maintained at a quality and resolution that ensures accuracy and usefulness for installation management and mission support. All GIS data created shall meet the Federal Geographic Data Committee Standard Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy, FGDC-STD-007.3-1999. Army spatial (GIS and CADD) data requirements are further defined in Engineering and Design, Geospatial Data and Systems, EM Manual No. 1110-1-2909, 1 Aug 1996.